

SP-014

Process Monitoring Smart Probe



- Up to 3x Current Loop (0-24mA)
or
- Up to 3x mV (0-1.0 V_{DC})
- 2x Digital I/O
- Software configurable through SYNC configuration software
- Modular M12 construction
- OMEGA Smart Core enabled
 - Data Logging
 - Integrated Alarm and Control
 - Plug and Play Device Detection
 - Sensor health monitoring



The Layer N SP-014 Process Monitoring Smart Probe provides an easy way to integrate process signals to your Layer N Ecosystem. The SP-014 accepts standard process signals through its M12 5-pin connector and Layer N Smart Interfaces through its M12 8-pin connector. The optional M12.5-S-M-FM connector can be utilized to easily connect wire leads to your SP-014

Each of the 3 process inputs may be independently configured as 0-24 mA or 0-1.0 V_{DC} inputs.

Intuitive Configuration

Configure your Layer N Smart Probe using SYNC's intuitive configuration interface.

Edge Control and Built in I/O

The Layer N SP-014 features 2 configurable digital I/O pins. These can be used for a myriad of applications including driving relays, physical alarms, or sensing dry contacts like door switches. The SP-014 can also be utilized as an edge controller, with autonomous independent decision-making capabilities to generate local alarms or provide control outputs based on sensor inputs.

Smart Core Enabled

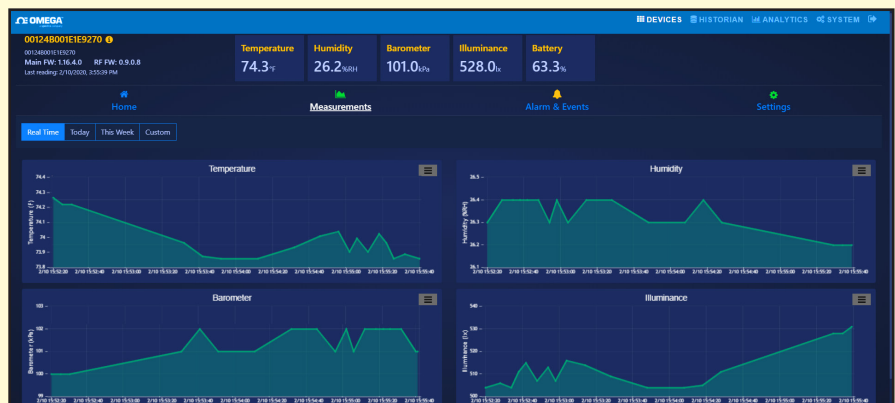
Smart core is integral to all Layer N Smart Probes. This powerful suite of advanced features enable plug and play connectivity, alarms and notifications, data assurance, data logging, and storage.

Smart Interface Modularity

Customize your Layer N Ecosystem with modular Smart Interfaces that connect and transmit data from your Smart Probe to the Layer N Cloud.

Your Data at a Glance with Layer N Cloud

Layer N Cloud consolidates and brings your data to you when you need it, wherever you are. The intuitive cloud interface allows you to monitor and store your data, set alarms and alerts, and provides insights on device activity. Visit the OMEGA website for more details.



Specifications

INPUT POWER

Voltage: $2.8 V_{DC} - 3.3 V_{DC}$

DIO DIGITAL INPUTS

$V_{inHighThreshold} = 2.2 V_{MAX}$

$V_{inLowThreshold} = 0.3 V_{MIN}$

$V_{inMAX} = 30 V_{DC}$

DIO DIGITAL OUTPUTS

2x Open Drain 100 mA max

$V_{MAX} = 30 V_{DC}$

ENVIRONMENTAL

Operating Temperature: -40 to 85°C (-40 to 185°F)

Rating: IP67 when mated

MECHANICAL

Dimensions: 22.1 mm W x 96.7 mm L (0.87" x 3.80") not including mounting tabs

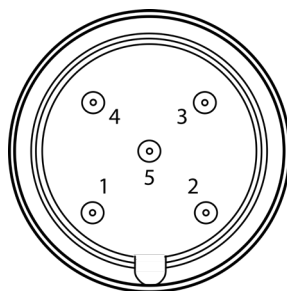
GENERAL

Agency Approvals: CE, EMC

2014/30/EU, LVD 2014/35/EU

Compatibility: Compatible with OEG, SYNC configuration software, Layer N Cloud, and Modbus Networks

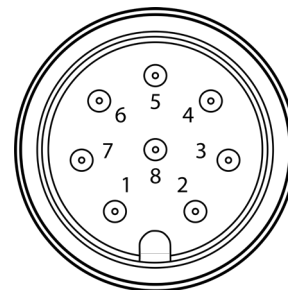
M12 5-Pin Wiring



Pin	mA	mV
Pin 1	3.3V Power	
Pin 2	Input 0	Input 0
Pin 3	GND	
Pin 4	Input 1	Input 1
Pin 5	Input 2	Input 2



M12 8-Pin Wiring



Pin	Name	Function
Pin 1	DIO 0	Discrete I/O Signal 0
Pin 2	INTR	Interrupt Signal
Pin 3	SCL	I2C Clock Signal
Pin 4	SDA	I2C Data Signal
Pin 5	Shield	Shield Ground
Pin 6	DIO 1	Discrete I/O Signal 1
Pin 7	GND	Power Ground
Pin 8	3.3VDD	Power Supply

Layer N SP-014

Model Number	Description
SF-014-1	Process Monitoring Smart Probe with discrete I/O

Layer N Smart Interface

Layer N Smart Probes require a Layer N Smart Interface to operate and connect to your Layer N Ecosystem.

Model Number	Description
IF-001	USB Smart Interface
IF-002	RS485/Modbus Smart Interface

Accessories

An optional M12 5-pin screw terminal adapter is available for users who wish to connect wire leads directly to the SP-014.

Model Number	Description
M12.5-S-M-FM	M12 5-pin screw terminal adapter
M12.8-T-SPLIT	Smart Probe M12-8 pin shielded T-Splitter - enables access to I/O pins
M12.8-S-M-FM	M12-8 pin Straight Plug Field install connector with screw terminals
DM12CAB-8-1-RA	1m (3.3') cable dual M12-8 connector, right angle terminator
DM12CAB-8-3-RA	3m (9.8') cable dual M12-8 connector, right angle terminator
DM12CAB-8-5-RA	5m (16.4') cable dual M12-8 connector, right angle terminator
DM12CAB-8-1	1m (3.3') cable dual M12-8 straight connector
DM12CAB-8-3	3m (9.8') cable dual M12-8 straight connector
DM12CAB-8-5	5m (16.4') cable dual M12-8 straight connector